

What is claimed is:

1. Computer apparatus for allocating communications bandwidth to a plurality of user connections, comprising:

a. a bus;

b. at least one communications interface connected to said bus;

c. a processor connected to said bus, said processor configured to allocate communications bandwidth to said user connections serviced by said at least one communications interface based on at least one set of priorities.

Sub 1

2. The apparatus of claim 1, in which one set of priorities comprises priorities based on type of information being retrieved.

Sub B1

3. The apparatus of claim 2 in which said type of information includes at least one of information in HTML format, information in a style sheet format, information in a GIF image format and information in a JPEG image format.

Sub 2

4. The apparatus of claim 1, in which one set of priorities comprises priorities based on how fast user connections can receive information.

6. The apparatus of claim 1, in which one set of priorities comprises priorities based on user identity.

8. Computer apparatus for allocating communications bandwidth to a plurality of server connections, comprising:

c. a processor connected to said bus, said processor configured to allocate communications bandwidth to server connections serviced by said at least one communications interface based on at least one set of priorities.

Sub₃

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10. The apparatus of claim 9, in which the state of application processes comprises the foreground or background state of a process.

11. The apparatus of claim 9, in which the state of application processes comprises the degree to which a window in which a process is running is ready for use by a user.

12. A method of operating a server on a network, comprising the step of:

a. providing an element for allocating communications bandwidth at a server to a plurality of user connections based on at least one set of priorities.

13. The method of claim 12 in which said set of priorities includes at least one of: type of information being retrieved, how fast user connections can receive information, which part of a document is being transmitted, user identity and stored indicia indicating importance of the document.

14. The method of claim 12 in which bandwidth is allocated to a user connection based on the ratio of priority that user connection bears to the sum of priorities of all user connections.

15. The method of claim 13 in which bandwidth allocation is recalculated on an event driven basis.

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16. The method of claim ¹⁵~~14~~ in which events triggering recalculation include at least one of: arrival of a new request for retrieval, finishing sending information in response to a retrieval request, cancellation of a retrieval request, detection of the inability of a user connection to use all of the bandwidth allocated to it, a change of priority and timeout of a timer.

17. A method of controlling communications by a process on a computer connected to a network, comprising the step of:

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a. providing an element for allocating communications bandwidth to a plurality of server connections in use by said process based on at least one set of priorities.

18. The method of claim 17 in which said priorities are based on the state of application processes running on said processor.

19. A communications system, comprising:

a. a network;

b. at least one server connected to said network;

and

5 c. at least one computer running at least one process connected to said network,

10 in which said at least one server or said at least one computer allocates bandwidth to a plurality of network connections based on at least one set of priorities.

20. The system of claim 19 in which said set of priorities includes at least one of: type of information being retrieved, how fast user connections can receive information, which part of a document is being
5 transmitted, user identity, stored indicia indicating importance of the document and the state of application processes running on said computer.

21. A computer program product, comprising:

a. a memory medium;

b. a computer program, stored on said memory medium, said computer program comprising instructions for allocating communications bandwidth at a server to a plurality of user connections based on at least one set of priorities.

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Sub B2 22. A computer program product, comprising:

a. a memory medium;

b. a computer program, stored on said memory medium, said computer program comprising instructions for allocating communications bandwidth to communications connections based on at least one set of priorities.

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